

CLAIMS

What is claimed is:

- 10075213.021302
1. A method of producing medicament particles comprising dissolving the medicament in a solvent, producing one or more streams of medicament solution and
5 contacting these streams with one or more streams of anti-solvent in order to produce a region of turbulent mixing in which rapid precipitation of medicament crystals takes place wherein the relative velocity of the streams is equal to or exceeds 30m/s, the velocity of each stream is controlled to substantially remove cyclic variations, and the ratio of the volume flow of anti-solvent to volume flow of medicament solution exceeds 2:1.
 - 10 2. A method according to claim 1 in which the relative velocity of the streams exceeds 50m/s.
 3. A method according to claim 1 in which the angle between the streams of solution and anti-solvent is less than 20°.
 4. A method according to claim 1 in which the streams of solution and anti-solvent
15 are substantially directly opposed.
 5. A method according to claim 1 in which the relative velocity of the streams is between 70 and 200m/s .
 6. A method according to ~~claim 1~~ in which the ratio of volume flow of anti-solvent to medicament solution is greater than 10:1.
 - 20 7. A method according to claim 1 in which the ratio of volume flow of anti-solvent to medicament solution is between 15:1 and 30:1.
 8. A method according to claim 1 in which the solvent is dimethylformamide.
 9. A method according to claim 1 in which the anti-solvent is water.
 - 25 10. A method according to claim 1 in which the medicament is triamcinolone acetonide.

11. A medicament powder produced by a method according to claim 1.

12. A medicament powder suitable for inhalation use produced by a method according to claim 1.

13. Triamcinolone acetonide produced by a method according to claim 1.

5 14. An apparatus for carrying out a method according to claim 1 comprising a cylinder with two or more orifices set into the cylinder walls through which streams of medicament solution and anti-solvent are produced which impinge on each other, wherein the streams of medicament solution and anti-solvent are produced by the actions of pumps and wherein the apparatus comprises means for reducing cyclic variations in stream velocities

10 15. An apparatus according to claim 14 in which the angle between the streams of solution and anti-solvent is less than 20°.

16. An apparatus according to claim 14 in which the streams of solution and anti-solvent are substantially directly opposed.

15 17. An apparatus according to claim 14 in which the cylinder has an internal diameter between 0.2 and 1.0mm.

18. An apparatus according to claim 14 in which the orifice used to produce the medicament solution stream has a diameter between 50 and 200 micrometer and the orifice used to produce the anti-solvent stream has a diameter between 100 and 500 micrometer.

100755243.0243002